RESPONSIBLE PURCHASING **GUIDE**

cleaners

RPN
Responsible Purchasing Network
Center for a New American Dream

About the Guide

The Responsible Purchasing Guide for Cleaners is published by the Responsible Purchasing Network in print, as a PDF file, and on the web. Print and PDF copies are available to the public for purchase. The online edition includes additional resources available to members of the Responsible Purchasing Network, including: searchable product listings, multiple policy and specification samples, comparisons of standards, and related documents. Visit www.ResponsiblePurchasing.org to purchase a copy or to access the members-only web-based edition of the Guide.

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About the Responsible Purchasing Network

The Responsible Purchasing Network (RPN) was founded in 2005 as the first national network of procurement-related professionals dedicated to socially and environmentally responsible purchasing.

RPN is a program of the Center for a New American Dream (www.newdream.org) and guided by a volunteer Steering Committee of leading procurement stakeholders from government, industry, educational institutions, standards setting organizations, and non-profit advocacy organizations.

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Overview

Social and Environmental Issues

The ingredients found in one out of three commercial cleaning products are potentially harmful to human health and the environment (JPPP, 1999). Custodial staff and people who spend a lot of time indoors, such as office workers and students, are particularly susceptible to the health risks posed by these products. Health problems associated with cleaning chemicals include reproductive disorders, major organ damage, permanent eye damage, asthma and other respiratory ailments, headaches, dizziness, and fatigue (Culver, 2002; EPA, 1993). These chemicals can also find their way into lakes, streams, and other water bodies (some of which may serve as drinking water sources), presenting further health and other environmental concerns.

Best Practices

Effective green cleaning programs designate a dedicated team of stakeholders to address the issues and execute a plan. The team should measure baseline data, set goals, adopt a policy, review and adopt standards and specifications, test products, train staff, measure progress at pre-determined intervals, and revise plans as needed.

Cost, Quality and Supply

In the past, environmentally preferable cleaners were sometimes perceived as less effective or more expensive than conventional cleaners, but this is undeniably no longer the case. Institutional users now report that green cleaners are cost competitive, perform just as well as more toxic alternatives, and are widely available through conventional suppliers. Hundreds of cleaners certified by Green Seal and/or Environmental Choice are readily available in the marketplace.

Policies

Green cleaning policies are gaining momentum. Ever since Massachusetts issued an approved products list for environmentally responsible cleaners in 2003, cities, states, schools and universities, hospitals, corporations and other institutions have begun adopting formal policies establishing responsible purchasing programs for cleaners. These policies typically cite the role green cleaners play in protecting human health and the environment, and they increasingly reference Green Seal and/or Environmental Choice as required product qualifications.

Standards

Green Seal and Environmental Choice each manage environmental certification programs that define green cleaners, and include evaluation and verification procedures to identify products meeting the standard. These standards were developed through extensive, public, consensus-based processes consistent with the ISO 14020 and 14024 environmental label guidelines. Both programs conduct on-site audits as part of their certification process. Additionally, the U.S. Environmental Protection Agency's Design for the Environment (DfE) Formulator Initiative and NSF International provide programs designed to help manufacturers improve the environmental performance of their cleaning products and/or define protocols to help manufacturers evaluate and improve their products.

Social and Environmental Issues

According to a U.S. Environmental Protection Agency-funded project, the ingredients found in one out of every three commercial cleaning products are potentially harmful (JPPP, 1999). Custodial staff and people who spend a lot of time indoors, such as office workers and students, are particularly susceptible to the health risks posed by the cleaning products. Health problems associated with cleaning chemicals include reproductive disorders, major organ damage, permanent eye damage, asthma and other respiratory ailments, headaches, dizziness, and fatigue (Culver, 2002; EPA, 1995). These chemicals can also find their way into lakes, streams, and other water bodies (some of which may serve as drinking water sources), presenting further health and other environmental concerns (EPA, 2003).

Hazardous Substances

The most important area of social and environmental concern with cleaning products is the unnecessary variety of hazardous substances they contain, including APEs, corrosives, and VOCs. Furthermore, many cleaning products in concentrated form are considered hazardous waste, which presents handling, storage, and disposal concerns (EPA, 2000; EPA, 2003).

Some cleaning products contain chemicals that can cause reproductive disorders, major organ damage, and permanent eye damage. Other common health problems associated with some cleaning chemicals include headaches, dizziness, and fatigue. Some cleaning product ingredients can also trigger breathing difficulties for people with asthma or other respiratory ailments (Culver, 2002; EPA, 1993).

Those who spend much of their time indoors, like students, patients, and office workers, are particularly susceptible to health problems caused by cleaning products. The four million janitors who keep North America's buildings clean also experience unnecessarily high injury rates with some experts estimating that 6 out of every 100 are injured by the chemicals they are using (Culver, 2002).

Some of the ingredients found in cleaning products that raise human health and environmental concerns include the following:

- Alkylphenol ethoxylates (APEs) are commonly used in cleaning products. Laboratory studies indicate that some APE degradation products are aquatically toxic and function as human "endocrine disrupters," which means they act as artificial hormones in the human body. The hormone-like effects of APEs observed in laboratory studies are similar to the reproductive and developmental disorders seen in wildlife exposed to polluted waters. Further research is underway to clarify the potential effects on humans and wildlife.

- Corrosive or strongly irritating substances found in some cleaning products can cause serious skin or eye damage if exposure occurs. Neutral pH, non-irritating products are widely available and suitable for many cleaning applications.

- Volatile Organic Compounds (VOCs) are found in many cleaning products. VOCs can contribute to poor air quality indoors and outdoors, including smog formation. They can also cause asthma attacks in some people.

Switching to green cleaners can significantly improve indoor air quality, reduce cleaning-related health problems and absenteeism, and increase productivity and morale (Fisk, 1997). Green cleaners can also reduce negative environmental effects.

Best Practices

The most successful green cleaning programs consist of more than just procuring better products. The following Best Practices help to structure and implement green cleaning programs that are flexible and designed for long-term success.

Form a Team

The first step in addressing the environmental and human health effects of cleaning products is to assemble a dedicated team to work on the issue. The team should include a broad range of stakeholders, including staff responsible for procurement, management, custodial staff, and other interested or relevant individuals as necessary. Together, the team will implement decisions regarding the use and procurement of cleaning products and develop a plan for moving forward and measuring results.

Establish Baseline

Begin by determining the baseline, or current consumption. What cleaning products are currently used and in what quantities? What hazardous chemicals are in these products? Re-evaluate the institution's cleaning needs. Are there different applications, such as glass and hard surface cleaning, that could be met by one product, like an all-purpose cleaner? Is it possible to cut waste by purchasing cleaning chemicals in concentrate form?

Set Goals

Critically examine the baseline data and identify areas for improvement. Set specific targets for reductions in costs, number and volume of cleaners used, and the human health and environmental consequences associated with the goals. For example, common goals include reducing employee absences due to health issues associated with cleaning chemicals, and eliminating or limiting the use of specific hazardous chemicals.

Adopt Policy

Consider adopting a policy to formalize the institution's commitment to purchasing cleaning products that minimize effects on human health and the environment. See the Policies section for examples.

Evaluate Standards and Specifications

After assessing the baseline and setting goals, draft bid specifications that meet qualifications that will help achieve those goals. Rather than developing product qualifications from scratch, time can be saved by referring to existing standards and specifications used by other institutions. Specifications used by similar organizations may meet the needs of your own institution. See the Specifications section for model specifications.

Improve Practices

There is more to green cleaning than switching procurement to green cleaning chemicals. Training custodial staff and modifying cleaning protocols can make a big difference in the effectiveness of a green cleaning program. Below are a few guidelines for maximizing the benefits of green cleaners:

- Streamline procurement processes so that only those cleaners necessary for established uses are procured.

- Improve employee training to ensure custodial workers are using cleaning products properly. According to several green cleaning experts, 90 percent of a cleaning budget is labor costs with only 2 to 5 percent related to chemical costs. If the workers are not using products correctly (whether they are using green products or not), facilities could be spending more than necessary and miss the greatest opportunities to protect human health, the environment, and the value of the building.

- Use better cleaning equipment. Many green cleaning guidelines emphasize the importance of placing doormats at entryways to reduce the amount of dirt entering a building. They also encourage the use of microfiber mops and cloths to reduce the need for cleaning chemicals. Experts also promote the use of high efficiency filtration vacuum cleaners to reduce the dust generated by older vacuum technologies.

- Modify cleaning protocols to move away from strict schedules for certain highly polluting cleaning activities. For example, some institutions are forgoing regularly scheduling floor stripping in favor of a more flexible schedules that allow floors to be stripped only when needed. This strategy is being adopted by a number of large building owners and is encouraged by the U.S. Green Building Council's LEED standard for existing buildings.

- Use Recycled-Content and Bio-Based Products. U.S. federal agencies and others using federal funds are required to buy recycled-content products, including custodial supplies such as paper towels, tissue products, and trash bags. The U.S. Environmental Protection Agency recommends recycled-content percentages for these and other products at www.epa.gov/cpg.

- Regulations require federal procurement of biobased (plant-based) products designated under the U.S. Department of Agriculture's new Federal Biobased Products Preferred Procurement Program. While no custodial supplies have yet been designated, a variety of custodial products are expected to be designated in the near future. For additional information, visit www.biobased.oce.usda.gov.

Measure Progress

Schedule regular assessments to measure the program's success. Check to see if predetermined benchmarks are being achieved. Reward or recognize the stakeholders responsible for achieving success. If necessary, identify and address any obstacles that may be limiting the program's success.

Cost, Quality, and Supply

Although early users experienced variability in performance and price between environmentally preferable and conventional cleaners, these differences have largely been addressed. Institutional users now report that, in general, green cleaners are cost competitive and perform just as well as their conventional counterparts. With hundreds of products now available with certifications from Green Seal and/or Environmental Choice, many suppliers now carry green options.

Cost

In general, green cleaning products do not cost any more than other cleaners. In fact, some organizations have discovered significant cost savings by switching to green cleaners as part of an overall green cleaning program. Santa Monica, CA, for example, documented a five percent price savings after implementing a green cleaning program (EPA, 1998; EPA, 2000). Other organizations, including the Chicago Public School System and the states of Massachusetts, Minnesota, and Vermont also report that green cleaners are cost competitive.

Using green cleaning chemicals can actually produce additional savings when other benefits are taken into account. Switching to green cleaners, for example, can help reduce the more than $75 million a year U.S. institutions spend to address the chemical-related injuries of custodial workers (JPPP, 1999).

Quality

Green cleaning product standards typically reference ASTM and other industry standards for cleaning effectiveness, which helps ensure the green products meet or exceed the same performance standards of more harmful products. In numerous tests conducted by a group of large volume purchasers, all of the green products bought by the group worked as well or better than other cleaners (MA, 2003). Santa Monica, the Chicago Public School System, and others have reported similar successful use of the green products in controlled on-site evaluations.

Green cleaners, like all cleaning products, work best when used as directed. Some cleaning products, for example, work best when applied directly to the surface being cleaned. Other products work best when applied to a cleaning cloth. Anytime one cleaning product is substituted for another—whether or not a green cleaning product is being substituted—cleaning staff should be trained in order to maximize the new product's effectiveness.

Supply

Green cleaning products are readily available. Green Seal – an independent, third-party certifier of green cleaners and other environmentally preferable products – certifies over 340 cleaning products from 80 manufacturers. Environmental Choice, a similar Canadian-based certification, certifies green cleaners from 46 manufacturers. Purchasers should ask suppliers whether they carry Green Seal and/or Environmental Choice certified products.

Policies

Educational institutions, cities, states, counties, and an increasing number of other institutions have already passed green cleaning policies. These policies state the social and environmental benefits gained by switching to green cleaners, and typically require the use of products certified by Green Seal and/or Environmental Choice.

Model Policy > New York, NY. Green Cleaning Law, 2005.pdf (See Addendum I)
On December 20, 2005, the City of New York passed Initiative Number 552-A, a local law requiring the purchase of green cleaning and custodial products, providing a model green cleaning policy.

More Sample Policies

State
Connecticut, Green Cleaning Executive Order, 2006
New Jersey, Green Cleaning Executive Order, 2006
New York, Green Cleaning Executive Order, 2005

County
Multnomah County, OR, Green Cleaning Resolution, 2005

City
Buffalo, NY, Bioaccumulative Toxics Resolution, 2004
Chicago, IL, Low Environmental Impact Cleaning Policy, 2004
New York, NY, Green Cleaning Law, 2005

School District
Chicago Public Schools, Green Cleaning Policy, 2005
New York State Public Schools, Green Cleaning Act, 2005

Specifications

Generally, it is helpful to first adopt a policy that addresses social and environmental issues before specifying your purchase, but good specifications can also be issued without an overriding policy in place. These specifications incorporate many of the best social and environmental criteria available.

Model Specification > Massachusetts RFR#GR016 Cleaning Products, Environmentally Preferable, 2002. (See Addendum II)
In 2002, Massachusetts issued a Request for Response specifically establishing Green Seal certification as the minimum standard for cleaning products, including: General Purpose Cleaners, Bathroom Cleaners, Glass Cleaners, Carpet Cleaners, Disinfectants, Floor Care Products, and Hand Soaps. Since then, a number of other states and local governments have also issued specifications for green cleaners.

More Specs

State
Connecticut, Environmentally Preferable Cleaning Products RFP, 2004
Massachusetts, Cleaning Products, Environmentally Preferable, RFR, 2002
Minnesota, Cleaning Supplies and Floor Care Products Contract, 2004
Missouri, Custodial Supplies Invitation For Bid, 2002
Pennsylvania, Cleaning Products Contract, 2004

County
Alameda County, Cleaning Products Request For Quote, 2005
San Francisco, Custodial Cleaners, 2005

City
San Francisco, Custodial Cleaners, 2005
Seattle, WA, Custodial Cleaning Products Request For Proposals, 2002

Standards

There are several programs to help purchasers identify green cleaners. Certifications such as Green Seal and Environmental Choice include specific criteria to define green products and include evaluation and verification procedures to identify products meeting the standard. Both standards were developed in an extensive, public, consensus-based process consistent with the ISO 14020 and 14024 environmental label guidelines. Both programs conduct on-site audits as part of their certification process. In addition to standards, the U.S. Environmental Protection Agency's Design for the Environment (DfE) Formulator Initiative and NSF International provide programs designed to help manufacturers improve the environmental performance of their products or define protocols to help manufacturers evaluate and improve their products.

Green Seal

Green Seal is a U.S. nonprofit, independent standard-setting organization certifying a range of products and services (and other products and services), including general purpose cleaners, bathroom cleaners, glass cleaners, carpet cleaners and more.

GC-11: Powdered Laundry Bleach (first edition: August 30, 1996)
GS-08: Household Cleaners (first edition: Nov. 2, 1993)
GS-34: Degreasers (first ed.: 1995)
GS-37: Industrial & Institutional Cleaners (third edition: Feb. 2006)
GS-40: Industrial & Institutional Floor Care Products (first edition: Nov. 12, 2004)
GS-41: Industrial & Institutional Hand Cleaners (June 2006, co-published with EcoLogo)
GS-42: Cleaning Services (first edition: Sept. 1, 2006)

Environmental Choice

The Environmental Choice Program (ECP) is Environment Canada's eco-labeling program certifying a variety of products, including hand cleaners, window & glass cleaners, boat & bilge cleaners, vehicle cleaner, degreasers, cooking appliance cleaners, disinfectants, cleaning products with low potential for environmental illness and endocrine disruption, bathroom cleaners, dish cleaners, carpet cleaners, and disinfectants.

CCD-104: Industrial Hand Cleaners (June 2006, co-published with Green Seal)
CCD-146: (A) Window and Glass Cleaner; (B) Boat and Bilge Cleaners; (C) Vehicle Cleaner for Household and Institutional use; (E) Degreasers; (F) Industrial Cleaners; (G) Cooking appliance cleaners; (I) Cleaning Product with Low Potential for Environmental Illness and Endocrine Disruption; (J) Bathroom Cleaners; (K) Dish Cleaners;
CCD-148: Carpet and Upholstery (first edition: June 10, 2004)
CCD-166: Disinfectants and Disinfectant Cleaners (first edition: March 7, 2007)

Other Standards and Programs

U.S. Environmental Protection Agency's Design for the Environment (DfE) Formulator Initiative

The DfE Formulator Initiative works with cleaning product manufacturers interested in improving the environmental performance of their products. The DfE program will review a manufacturer's ingredients and recommend safer alternatives.

DfE does not recommend or endorse products, but companies that reformulate their products based on its recommendations are eligible to use the DfE logo on their product. The logo indicates that the DfE review team has screened each ingredient in the product for potential

human health and environmental effects and that - based on currently available information, predictive models, and expert judgment - the product contains only those ingredients that pose the least concern among chemicals in their class. More than 160 products from 38 companies are currently eligible to use the logo. Many of the products recognized by DfE are also certified by Green Seal or Environmental Choice. For a list of companies working with EPA's Design for the Environment Formulator Initiative program and the approximately 160 products eligible to use the DfE logo, visit www.epa.gov/dfe/pubs/projects/formulat/formpart.htm.

NSF International
NSF International developed a product development process-environmental management system standard for hard surface cleaners to help manufacturers continually improve the environmental performance of their products. The standard provides a guide to manufacturers in establishing a product stewardship practice that enhances a manufacturer's capability to minimize health and environmental impacts at all stages of the product life cycle. Additional information on the NSF standard is available at http://webstore.ansi.org/ansidocstore/product.asp?sku=NSF%2FANSI+143-06.

U.S. Green Building Council
Leadership in Energy and Environmental Design (LEED) Rating System
The USGBC awards buildings LEED certification at the Certified, Silver, Gold, and Platinum levels, based on the number of credits earned in a variety of categories. Renovated buildings can earn up to three points in the Materials and Resources category in the LEED for Existing Buildings (LEED-EB) rating system. Under the Sustainable Cleaning Products and Materials credit, one point is attainable for every thirty percent of the total annual purchases that meet either GS-37 standards or, for floor care products, the California Code of Regulations on VOC levels. Up to three Indoor Environmental Quality category points are also available for best management and design practices under Green Cleaning: Entryway Systems, Isolation of Janitorial Closets and Low Environmental Impact Cleaning Policy. See pages 77 and 111 of the LEED-EB rating system.

LEED for Schools addresses similar design and management concerns in the Innovative Design and Process, Low Impact Cleaning and Maintenance Equipment Policy credit. To earn the one possible point schools should use high efficiency, low emissions equipment such as Carpet and Rug Cleaners Green Label vacuum cleaners. See page 75 of the LEED for Schools rating system.

Products

RPN's online database lists hundreds of cleaning products certified by Green Seal and/or Environmental Choice (see Standards), including products for general purpose, floor care, carpet, degreasers, drains, hands, hard surfaces and other industrial and institutional cleaning applications. The listings are updated regularly, but please check with the certifying agency directly to confirm the status of a product.

Handy Facts

- Each year, the institutional cleaning industry contributes $150 billion to the economy and uses five billion pounds of chemicals, many of which are known hazards to human health and the environment (Case, 2003).

- According to a U.S. Environmental Protection Agency-funded project, the ingredients found in one in three commercial cleaning products are potentially harmful (JPPP).

- The four million janitors who keep North America's buildings clean also experience unnecessarily high injury rates with some experts estimating that 6 out of every 100 are injured by the chemicals they are using (Culver, 2002).

- The Custodial Products Pollution Prevention Project estimates that the average janitor uses about 23 gallons of chemicals per year, weighing 194 pounds. Hazardous ingredients comprise 25% of this total (JPPP, 1999).

- Green Seal reports that cleaning products are responsible for approximately eight percent of total non-vehicular emissions of volatile organic compounds (VOCs). Furthermore, a U.S. Environmental Protection Agency (U.S. EPA) study of six communities nationwide found that indoor levels of VOCs are up to 10 times higher than outdoor levels. VOCs contribute to smog formation, inhibit plant growth, and can cause respiratory problems in certain people (EPA, 2000; EPA, 2003).

- Switching to green cleaners, for example, can help reduce the more than $75 million a year U.S. institutions spend to address the chemical-related injuries of custodial workers (JPPP, 1999).

- Using safer cleaning products, in addition to better ventilation and cleaning, could improve worker productivity by between 0.5 percent and 5 percent, an annual productivity gain of $30 billion to $150 billion (Culver, 2002).

- Santa Monica, California, documented a five percent price savings after its switch to green cleaners (EPA, 1998; EPA, 2000).

- The chemicals most frequently involved in poisonings reported to the U.S. Poison Control are cleaning products (EPA, 2003).

Definitions

Baseline	basic information gathered before a program begins that is used later to provide a comparison for assessing program impact
Bioaccumulate	process whereby harmful substances concentrate or magnify as they move up the food chain.
Biobased	Products composed in whole or in significant part of biological products, forestry materials, or renewable domestic agricultural materials, including plant, animal, or marine materials, generally safer for the environment than petroleum-based counterparts, and usually biodegradable or recyclable.
EcoLogo	multi-attribute environmental certification managed by the Government of Canada
Endocrine disruptor	chemical that interferes with the normal function of a living organism's endrocrine system
Environmentally preferable	products and services that have a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose.
Hazardous substance	1. material posing a threat to human health and/or the environment, that can be toxic, corrosive, ignitable, explosive, or chemically reactive 2. substance that must be reported to the EPA if released into the environment.
LEED (Leadership in Energy and Environmental Design)	a building rating system developed by the US Green Building Council, includes standards for several types of buildings
Toxic substance	a chemical or mixture that may present an unreasonable risk of injury to health or the environment
Volatile organic compound (VOC)	organic compound that typically vaporizes at room temperature and participates in atmospheric photochemical reactions

Endnotes

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Addendum I: Model Policy

New York, NY. Green Cleaning Law, 2005

On December 20, 2005, the City of New York passed Initiative Number 552-A, a local law requiring the purchase of green cleaning and custodial products, providing a model green cleaning policy.

See attached for complete policy.

Addendum II: Model Specification

Massachusetts RFR#GR016 Cleaning Products, Environmentally Preferable, 2002
In 2002, Massachusetts issued a Request for Response specifically establishing Green Seal certification as the minimum standard for cleaning products, including: General Purpose Cleaners, Bathroom Cleaners, Glass Cleaners, Carpet Cleaners, Disinfectants, Floor Care Products, and Hand Soaps. Since then, a number of other states and local governments have also issued specifications for green cleaners.

See attached for complete specifications.